

CHARGE NUMBER: 1503  
PROGRAM TITLE: Modified Smoking Materials  
PROJECT LEADER: J. D. Hind  
PERIOD COVERED: November 1-30, 1973  
DATE OF REPORT: December 11, 1973

## I. FILM WRAPPERS<sup>1</sup>

The Sandvik belt will not be available to us for six to eight weeks, pending installation of RL process equipment in "C" Pilot Plant. Before this shutdown, we prepared several new film wrapper formulations using guar gum with additions of alumina pigment and potassium citrate respectively.

We are testing these films and making others in the laboratory to define the effects which can be obtained by making wide variations in amount and kinds of pigment loading.

Rewinding equipment to permit uniform distribution of moisture in the films is being constructed in the machine shop. The New Product Division (Project 4009) is preparing various model cigarettes from guar gum wrapper and will be working on mechanically perforated films.

In guar wrapper, Players (all flue cured) blend delivers less TPM and moisture from Marlboro 85 models than MF blend.

## II. FILLER PROCESSES

Redried ammonium carbonate impregnated filler was successfully expanded<sup>2</sup> in the 3" tower at a temperature of less than 250°F. Cylinder volume attained was 71 cc/10 g at 11% O.V.

We have observed<sup>3</sup> that uncased burley tobacco filler can be expanded to high cylinder volumes in the 3" tower operating at 625°F, 100% steam, 100 ft/sec. Input tobacco was adjusted to 20 and 30% O.V. The tobacco had been specially cut for experiments with ammonia-hydrogen peroxide, but it was apparent that these additives were not necessary to obtain the desired expansion. A systematic series of tests is underway to determine whether these preliminary findings can be reproduced in large-scale runs.

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Although members of the in-house smoking panel apparently did not detect off-taste in an initial trial of aluminum-sulphate cased filler, some objections appeared in a descriptive panel trial. Our Flavor Group has recommended an additive to be used with this filler.<sup>4</sup>

1-3 butanediol has been tried on Marlboro type cigarettes at approximately a 3% level withholding other casings from the trial. This humectant has been used extensively in Germany where it is an accepted cigarette ingredient. The Flavor Group has been requested to evaluate the cigarettes.<sup>4</sup>

TFP, with 14% carbon additive was treated in the 3" tower, in an attempt to reactivate the carbon. Appropriate blends are being made into cigarettes to evaluate this treatment. The carbon addition is part of a systematic effort to find extenders for reconstituted material which may result in an overall improvement of our blends.<sup>4</sup>

### III. DESIGNED FILLER

Cigarettes were handmade from a composition containing 59% reduced viscosity guar gum (General Mills). The smoke was somewhat "sharp" and "papery", but there was no characteristic taste and no after-taste sensations. Guar gum can be considered from this point of view as an attractive substrate.<sup>5</sup>

### IV. REFERENCES

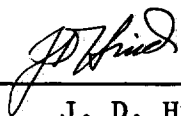
<sup>1</sup>E. J. Deszyck, Notebook 6293, pp. 33 - 48.

<sup>2</sup>J. W. Leik, Notebook 6233, pp. 76 - 87.

<sup>3</sup>G. F. Kite, Notebook 6430, pp. 6 - 8.

<sup>4</sup>A. T. Lendvay, Notebook 6367, pp. 40 - 50.

<sup>5</sup>J. D. Hind, Notebook 4803, pp. 96.

  
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